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b. an outer coating component having at least one layer less than 100 nm thick formed of a water swellable ceramic material selected from the group consisting of aluminum nitride, zirconium nitride and hafnium nitride on the inner coating component.

12. The intracorporeal device of Claim 1 wherein the inner component has a thickness of up to about a micron.

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C4

13. The intracorporeal device of Claim 5 wherein each of the inner and outer coating components have a thickness in a range from about 1 to 50 nm.

14. The intracorporeal device of Claim 1 wherein the at least one layer on the surface of the device includes a plurality of nano-scale ceramic layers independently forming a hardness-imparting ceramic coating layer and a toughness-imparting ceramic coating layer.

15. The intracorporeal device of Claim 14 wherein each of the hardness-imparting and the toughness-imparting coating layer has a thickness independently ranging from about 1 to about 100 nm.

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18. A nanostructure protective self-repairing coating for a substrate, the coating comprising an outer coating component less than 100 nm thick comprising a compound selected from the group consisting of aluminum nitride, zirconium nitride and hafnium nitride which is capable of forming a hydrate or hydroxide compound upon contact with an oxygen containing environment and an inner coating component secured to the substrate comprising a bilayer of ceramic materials.